

S/200/62/000/005/004/005
I010/I210

9,1310

AUTHORS: Minich, V.V., Byakov, A.K., and Rogov, A.T.

TITLE: Resonance analysis of the field in a multimode waveguide

PERIODICAL: Akademiya nauk SSSR. Sibirskoye otdeleniye Izvestiya, no.5, 1962, 118-121

TEXT: A resonance method based upon the differences of the wave propagation constants is suggested for the field analysis (determination of the coefficients). The selectivity of the instrument is high, since for an increase of the R_1 ratio the difference of the wavelengths for various propagation modes decreases. The highest value of the Q_{mnp} (general Q for the m,n,p mode) may be obtained by employing a semi-transparent conducting film for the coupling of the resonant cavity with the waveguide. The quality of the

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S/200/62/000/005/004/005
I010/I210

Resonance analysis of the field...

semi-transparent diaphragm determines the accuracy of the measurement.
There are 1 figure and 1 table.

ASSOCIATION: Institut radiofiziki i elektroniki Sibirskogo otdeleniya
AN SSSR (The Institute of Radiophysics and Electronics
of the Siberian Division of the AS:USSR, Novosibirsk) ✓B

SUBMITTED: August 19, 1961

Card 2/2

BYAKOV, A.V., mashinist elektrovoza

Make wiser use of regeneration. Elek.i tepl.tiaga 4 no.1:7
Ja '60. (MIRA 13:4)

1. Depo Perm'.
(Electric railroads)

L 42057-66 EWT(1) JM

ACC NR: AP6005326

SOURCE CODE: UR/0413/66/000/001/0063/0063

AUTHORS: Byakov, A. K.; Sharkov, K. G.

ORG: none

TITLE: Magnetron, Class 21, No. 177547

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 63

TOPIC TAGS: magnetron, resonator, circular waveguide, ferromagnetic material

ABSTRACT: This Author Certificate presents a magnetron containing a coaxial stabilizing resonator, which is connected to the end of the resonator system through radial slits in a thin disk, with a center conductor and a capacitive diaphragm. The diaphragm is made of ferromagnetic material (whose thickness is 1/4 or 3/4 of the wave length) and is connected to the circular output waveguide through the slit waveguides placed in it (see Fig. 1). To tune the frequency with the minimum possible magnetic circuit gap, the capacitive diaphragm is movable along the center conductor of the coaxial resonator.

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UDC: 621.385.642.3

L 1:2057-66

ACC NR: AP6005326

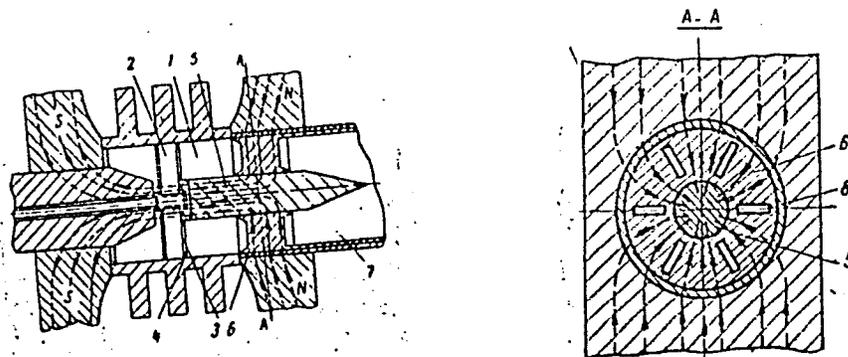


Fig. 1. 1 - coaxial stabilizing resonator; 2 - resonator system;
3 - radial slits; 4 - thin disk; 5 - center conductor;
6 - capacitive diaphragm; 7 - circular output waveguide;
8 - [Abstracter's note: omitted in original material]

Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 25Dec63

2/2 af

BUZIK, Valentin Filippovich; BYAKOV, Miron Romanovich; UR~~TSKIY~~, Moisey Lazarevich; ~~ENROL'D~~, Valentina Nikolayevna; DORMIDONTOV, F.K., otvetstvennyy redaktor; KONTAROVICH, A.I., tekhnicheskiy redaktor; KAMOLOVA, V.M., tekhnicheskiy redaktor

[Work rhythm and uniformity in shipbuilding] Ritmichnost' i ravnomernost' sudostroitel'nogo proizvodstva. Leningrad, Gos. soiuznoe izd-vo sudostroit. promyshl., 1956. 111 p. (MLRA 9:9)
(Shipbuilding)

BYAKOV, A.V., mashinist

Sandboxes of electric locomotives need skilled handling. Elek. i tepl.
tiaga 7 no.11:28 N '63. (MIRA 17:2)

1. Depo Perm' Sverdlovskoy dorogi.

Declassified

BYAKOV, Miron Romanovich [deceased]; URETSKIY, Moisey Lazarevich;
MINYAYEV, V.I., retsenezent; TSVENEV, V.L., retsenezent;
SATANOVSKIY, Ya.S., nauchnyy red.; SHAKHNOVA, V.M., red.;
KOROVENKO, Yu.N., tekhn. red.

[Operational planning in shipbuilding plants] Operativnoe planirovanie proizvodstva na sudostroitel'nom zavode. Leningrad, Sudpromgiz, 1963. 259 p. (MIRA 16:7)
(Shipbuilding--Management)

BLAKOV, M.V.; STROGANOV, L.M.

Prolonged systematic use of adrenaline in the treatment of
primary glaucoma. Vest.oft. no.3:47-52 My-Je '62. (MIRA 15:8)

1. Klinika glaznykh bolezney (i. o. zav. kafedroy - kand.med.
nauk V.S. Goryainov) Ryazanskogo meditsinskogo instituta imeni
akad. I.P. Pavlova.
(GLAUCOMA) (ADRENALINE)

BYAKOV, P. T.

②
Fuel

Chemical Abstracts
Vol. 48 No. 5
Mar. 10, 1954
Fuels and Carbonization Products

Effect of distance of peat pumping on its properties and the quality of air-dried peat. P. T. Byakov and N. G. Yakovlev. *Torfyannaya Prom.* 29, No. 8, 9-11 (1952).—Pumping a water suspension of peat in a peat pipe line a distance of 50 km. affected a no. of peat properties. The viscosity of the water suspension was reduced to almost 1/2 of the original value, the bulk weight of dried peat was increased, and its water-absorbing capacity reduced to almost half its original value.
W. M. Sternberg

1. BYAKOV, P. T., VOCHETOV, P. N.
2. USSR (600)
4. Peat Industry
7. Using metal piles as supports for bottom peat cranes. Torf. prom 30 no. 3, 1953

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

BYAKOV, P.T., inzhener; YAKOVLEV, S.M.

Machine for grading work in hydraulic peat fields. Torf.prom. 31
no.5:12-14 '54. (MLRA 7:8)

1. Chernoramenskoye ^{Peat strip} torfopredpriyatiye (for Byakov) 2. Vsesoyuznyy
nauchno-issledovatel'skiy institut torfyanoy promyshlennosti (for
Yakovlev).
(Peat machinery)

MATVEYEV, L.M., inzh.; ~~BYAKOV~~, P.T., inzh.; ZAV'YALOV, V.A., kand.tekhn.nauk

First peat priquet factory with a through-circulation screen-
conveyor dryer. Torf.prom. 38 no.2:17-19 '61. (MIRA 14:3)

1. Gor'kovskiy sovnarkhoz (for Matveyev). 2. Pikinskoye torfopred-
priyative (for Byakov). 3. Katininskiy torfyanoy institut (for
Zav'yalov).
(Peat--Drying) (Briquets(Fuel))

BLAGONRAVOV, S.I.; BREK, B.M.; BYAKOV, P.T.; VIKTOROV, V.S.; VAGANOV,
V.I.; GUSEV, S.A.; GLEBOV, V.V.; GURILEV, A.M.; DANILOV, G.D.;
ZAV'YALOV, V.G.; IOFFE, Ye.F.; IZVEKOV, G.M.; KONOVALOV, S.A.;
KULIGIN, A.S.; KASATKIN, A.P.; KUZNETSOV, N.I.; LEBEDEV, A.I.;
LEMPERT, Ye.N.; MARGEVICH, Ya.I.; MAYZEL', M.A.; MITYAKOV, V.S.;
NOSKOV, M.M.; RYABCHIKOV, M.Ya.; RATSMAN, N.I.; TVOROGOV, M.K.;
UGOL'NIKOV, V.Ya.; KHAR'KOV, G.I.; CHADOV, S.L.

Lev Mil'evich Matveev; obituary. Torf. prom. 38 no.4:38 '61.
(MIRA 14:9)
(Matveev, Lev Mil'evich, 1914-1961)

IZVEKOV, G.M., inzh.; BYAKOV, P.T., inzh.

Modernized furnace of the "B. Pikinskii" Peat Briquet Plant.
Torf. prom. 40 no.4:25-27 '63. (MIRA 16:10)

1. B.Pikinskoye predpriyatiye Volzhsko-Vyatskogo soveta
narodnogo khozyaystva (for Byakov).
(Furnaces) (Peat--Drying)

BELAKOVSKIY, Ya., dotsent; BUZKOV, V., prepodavatel'; MURAV'YEV, V.

Use of polyamides in the bearings of propeller shafts.
Mor.flot 25 no.6:31-32 J1 '65.

(MIRA 19:1)

1. Odesskiy institut inzhenerov Morskogo flota (for Belakovskiy,
Buzkov). 2. Glavnyy mekhanik Odesskogo sudoremontnogo zavoda No.2
(for Murav'yev).

BYAKOV, V. M. and IOFFE, B. L.

"Homogeneous Natural-Uranium Reactor with Recycling of Plutonium Produced."

paper to be presented at 2nd UN Intl.' Conf. on the peaceful uses of Atomic Energy, Geneva, 1 - 13 Sept 58.

4(3), 24(5)

SOV/56-35-5-19/56

AUTHORS: Byakov, V. M., Avalov, R. G.

TITLE: The Acceleration of Cosmic Rays in a Fluctuating Magnetic Field
(Uskoreniye kosmicheskikh luchey vo fluktuiruyushchem magnitnom pole)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958,
Vol 35, Nr 5, pp 1181-1184 (USSR)

ABSTRACT: In the present paper the acceleration of cosmic particles is investigated in magnetic fields which are variable with respect to time. Such fields occur in the turbulent motion of interstellar matter as well as in the atmospheric motion of some types of stars. In an ideally conductive magnetized medium (as e.g. in cosmic space) the magnetic lines of force are connected with matter, and density variations simultaneously entail field variations. In interstellar space the hydrodynamic velocities are as a rule never small compared to the velocity of sound. Velocity fluctuations cause considerable density variations and thus also considerable fluctuations of the magnetic field. For the magnetic field there are two possibilities: either it grows at the expense of the turbulent motion of the magnetic medium,

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SOV/56-35-5-19/56

The Acceleration of Cosmic Rays in a Fluctuating Magnetic Field

or it is steady (or quasisteady). The acceleration of cosmic particles in the former case was investigated by Logunov and Terletskiy (Ref 1), and their acceleration by magnetohydrodynamic waves in galactic spiral branches was investigated by Davis (Ref 2). In the present paper investigations are based upon the latter possibility, and the acceleration of charged particles at the expense of fluctuation variations of the magnetic field are investigated. First, the order of magnitude of the effect to be expected is estimated. For particles of the charge e and of the momentum p the following applies:

$$p \ll (e/c)H^2/|\text{grad } H| \text{ and for } H \leq 10^{-5} \text{ Oe } p^2 \sin^2 \vartheta/H = \\ = p_1^2 \sin^2 \vartheta_1/H_1 \quad (\vartheta - \text{angle between } \vec{p} \text{ and } \vec{H}); \text{ the index 1 denotes}$$

the quantities at the moment of entering in the field domain under observation. Expressions are further derived for Δp and Δp^2 in dependence on the period of field variation. Finally, the efficiency of the acceleration mechanism investigated is compared with that of Fermi (Ref 3) (in the relativistic case) and the following is obtained:

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The Acceleration of Cosmic Rays in a Fluctuating Magnetic Field

$$\left(\frac{dE}{dt}\right) / \left(\frac{dE}{dt}\right)_{\text{Fermi}} = \frac{1}{16} \frac{n^2}{1+n} \frac{c}{v} \text{ with } n^2/(n-1) \ll 3 \quad (v \leq 100 \text{ km/sec}).$$

Calculations show that the mechanism investigated here may be more efficient than the Fermi acceleration mechanism. In conclusion, the authors thank K. A. Ter-Martirosyan, S. B. Pikel'ner, and I. S. Shklovskiy for their interest and discussions. There are 6 references, 3 of which are Soviet.

SUBMITTED: May 19, 1958 (initially) and July 18, 1958 (after revision)

Card 3/3

Byakov, V.M.

21(4) PHASE I BOOK EXPLOITATION SOV/2583

International Conference on the Peaceful Uses of Atomic Energy, 2nd, Geneva, 1958.

Doklady sovetskikh uchenykh; yadernyye reaktory i yadernaya energetika. (Reports of Soviet Scientists; Nuclear Reactors and Nuclear Power) Moscow, Atomizdat, 1959. 707 p. (Series: Its: Trudy, vol. 2) Errata slip inserted. 8,000 copies printed.

General Eds.: M.A. Dollezhal, Corresponding Member, USSR Academy of Sciences; A.K. Krut'ko, Doctor of Physical and Mathematical Sciences, A.I. Lermunskiy, Member, USSR Academy of Sciences, Y.I. Kovilov, Corresponding Member, USSR Academy of Sciences, and V.I. Pursov, Doctor of Physical and Mathematical Sciences; Ed.: A.P. Alyab'yev, Tech. Ed.: Ye. I. Mazel'.

PURPOSE: This book is intended for scientists and engineers engaged in reactor designing, as well as for professors and students of higher technical schools where reactor design is taught.

COVERAGE: This is the second volume of a six-volume collection on the peaceful uses of atomic energy. The six volumes contain the reports presented by Soviet scientists at the Second International Conference on Peaceful Uses of Atomic Energy, held from September 1 to 13, 1958 in Geneva. Volume 2 consists of three parts: the first is devoted to atomic power plants under construction in the Soviet Union; the second to experimental and research reactors; the third, which is predominantly theoretical, to problems of nuclear reactor physics and construction engineering. Yu. I. Kovilov is the science editor of this volume. See SOV/2081 for titles of the other volumes of the set. References appear at the end of the articles.

PART II. EXPERIMENTAL AND RESEARCH REACTORS

- Lermunskiy, A.I., V.G. Gribbin, M.K. Adzharzhov, I.I. Bondarenko, O.D. Kazachkovskiy, I. Chumachenko, S.A. Fainlov, M.P. Prizhvalik, K.K. Nemler, V.I. Stetskiy, V.M. Ushakov, L.N. Ushakov, and K.A. Stumun. Experimental 700t Reactors in the USSR (Report No. 2125) 215
- Elmip, I.K., V.A. Butirzyevskiy, I.S. Grigor'ev, Yu.Yu. Glazkov, S.V. Gubchikov, and E.D. Dnyovskiy. P105-plant Reactor With Variable and Adjustable D/F (Report No. 2502) 232
- Goncharov, V.V. and et al. Some New and Rebuilt Thermal Research Reactors (Report No. 2185) 243
- Bukhovich, B.V., I. Ya. Gerasimov, V.I. Filimonov, P.V. Glazkov, G.D. Ushakov, and V.I. Gerasimov. Dismantling an Experimental Graphite-uranium Lepton Producing Reactor After Four Years of Operation (Report No. 2297) 319
- Polibeyev, S.M., Ye. D. Yozob'zov, V.M. Grigor'ev, V.B. Kiselev, I.V. Kazhachenko, and V.A. Tsyanov. An Intermediate Method for Obtaining High Intensity Neutron Fluxes (Report No. 2142) 334

PART III. PHYSICS AND ENGINEERING OF REACTOR DESIGN

- Lermunskiy, A.I., A.I. Abrosimov, V.M. Andreyev, A.I. Butirzyevskiy, A.I. Bondarenko, V.I. Chumachenko, V.I. Gerasimov, A.D. Gub'ko, A.G. Gerasimov, G.D. Kazachkovskiy, V.I. Krut'ko, M.P. Prizhvalik, B.D. Ruzhnikov, V.M. Ushakov, M.M. Nikolskiy, M. Maitchkin, Yu. I. Kovilov, P.I. Ushakov, L.N. Ushakov, and V.I. Pursov. Research on the Physics of Fast Neutron Reactors (Report No. 2098) 377
- Bykov, V.M., and B.L. Zoff. Homogeneous Natural Uranium Reactor (Report No. 2296) 398
- Polibeyev, S.M., Ye. S. Antsiferov, V.P. Katkov, I.V. Komisarov, G. S. Gerasimov, Yu. V. Nikol'skiy, A.N. Novikov, V.S. Osmachkin, G. S. Gerasimov, Yu. V. Shevelov, Fuel Burn Up in Water-water Power Reactors and Experiments With the Uranium Water Lattice (Report No. 2145) 411
- Zidorenko, V.A. Self-regulation in a Water-water Power Reactor (Report No. 2186) 531

ERSHLER, B.V.; BYAKOV, V.M.

Data on the recombination of radicals from various tracks in radiolysis, and homogeneous kinetics. Part 1. Setting the problem and calculation of certain parameters of a single spur according to the initial radiolysis yields. Zhur. fiz. khim. 36 no.4:913-915 Ap '62. (MIRA 15:6)
(Radicals (Chemistry)) (Photochemistry)

BYAKOV, V.M.; STEPANOVA, O.P.

Some correlations in the process of recrystallization of a
polydisperse system. Zhur. fiz. khim. 36 no.6:1324-1326 Je'62
(MIRA 17:7)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR.

38017
S/020/62/144/005/015/017
B124/B138

5.4600

AUTHORS: Ershler, B. V., and Byakov, V. M.

TITLE: Applicability of the equations of homogeneous kinetics to radiolysis by high-intensity bombardments

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 5, 1962, 1103-1104

TEXT: An attempt is made to prove the validity of the simplified model developed by Allen and others to describe the radiolysis of iron sulfate by fast electrons with absorbed power doses up to 10^{23} ev/cm².sec. The diffusion of radicals is neglected, and, in the case of bombardment of water, constant yields of H, OH, H₂, and H₂O particles are assumed according to the equation $(2k+n)H_2O = (2l+m)H_2O = kH_2 + lH_2O_2 + mOH + nH$. Here k, l, m, and n are the quantities of these particles respectively, obtained from water by an absorbed power of 100 ev. At ordinary intensities the oxidation yield of a FeSO₄ solution is known to be $G_{max} = 15.6$ iron ions per 100 ev, where $15.6 = 2l + m + 3n$. Iron is oxidized by all radicals according to the

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S/O20/62/144/005/015/017
B124/B138

Applicability of the equations...

reactions: $2\text{Fe}^{2+} + \text{H}_2\text{O}_2 \rightarrow 2\text{Fe}^{3+} + \text{OH}^-$ (I); $\text{Fe}^{2+} + \text{OH} \rightarrow \text{Fe}^{3+} + \text{OH}^-$ (II);
 $\text{H} + \text{O}_2 \rightarrow \text{HO}_2$ (III); $3\text{Fe}^{2+} + \text{HO}_2 + \text{H}^+ \rightarrow 3\text{Fe}^{3+} + 2\text{OH}^-$ (IV). In the solution
 $\text{FeSO}_4 + \text{O}_2$, the Fe^{2+} ion in concentrations between 1 and $2 \cdot 10^{-5}$ N and more
is the OH radical acceptor, while the H atom acceptor is composed of O_2

molecules with half the concentration, in an air-saturated solution. The
concentration of all primary radiolytic products increases with bombardment
intensity, which leads to acceleration of the radical recombination reactions:
 $\text{H} + \text{H} = \text{H}_2$ (V); $\text{H} + \text{OH} = \text{H}_2\text{O}$ (VI), and $\text{OH} + \text{OH} = \text{H}_2\text{O}_2$ (VII). The volume
recombination of radicals is accelerated by the square of their volume
concentrations, and radical capture only to the first power of their volume
concentrations. Thus, in $\text{FeSO}_4 + \text{O}_2$ solutions recombination begins to
compete with capture when bombardment intensity is increased, which results
in lower yields of oxidized iron. The following final equation is obtained
for the dependence of the yield of oxidized iron G on the intensity of
bombardment:

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Applicability of the equations...

S/O20/62/144/005/015/017
B124/B138

$$k_3/k_5^{1/2} = (I/100N)^{1/2} \frac{n - 1/3(G_{\max} - G)}{[(1/6)(G_{\max} - G)]^{1/2}} \cdot [1/(O_2)]$$

where $G_{\max} = 15.6$ (maximum yield of oxidized iron), k_3 and k_5 are the rate constants of the reactions (III) and (V), N is Avogadro's number, and (O_2) (O_2 concentration in the air-saturated solution) = $2.7 \cdot 10^{-4}$ mole/liter.

The constant value of the $k_3/k_5^{1/2}$ constant confirms the equation given.

There is 1 figure. The English-language references are: N. F. Barr, A. O. Allen, J. Phys. Chem. 63, 928 (1959); C. J. Hochanadel, J. Phys. Chem. 56, 587 (1952).

PRESENTED: January 14, 1962, by A. N. Frumkin, Academician

SUBMITTED: January 12, 1962

Card 3/3

L 16913-63

EWT(1)/EPP(2)-2/BDS

AFPTC/ASD/SSD

Pu-4

S/076/63/037/004/004/029

AUTHOR: Byakov, V. M. (Moscow)

59

TITLE: ~~Motion~~ of non-spherical gas bubbles in a liquid₁

PERIODICAL: Zhurnal fizicheskoy khimii, V. 37, No. 4, 1963, 759-763

TEXT: The motion of gas bubbles when Reynold's number (Re) \geq 500 is examined. It is found that the resistance to the motion of non-spherical gas bubbles in a liquid, like that of solids when $Re \gg 1$, should possess a turbulent character. This is determined experimentally using an apparatus consisting basically of a closed tube filled almost completely with a liquid to which a buret is connected so as to measure changes in volume. Bubbles are then introduced into the tube at its base. There are 3 figures.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki (Institute of Theoretical and Experimental Physics)

SUBMITTED: February 14, 1962

Card 1/1

L 18876-63 EPF(c)/EWT(m)/BDS AFFTC/ASD Pr-4 WW/JFW
ACCESSION NR: AP3006620 S/0076/63/037/009/2016/2021 60

AUTHORS: Byakov, V. M.; Ershler, B. V. (Moscow)

TITLE: Data on the recombination of radicals from different tracks during radiolysis and homogeneous kinetics. 4. Ranges of concentration and irradiation rates within which the simple radiolysis model is valid

SOURCE: Zh. fizicheskoy khimii, v. 37, no. 9, 1963, 2016-2021

TOPIC TAGS: radiation chemistry, irradiation, radical, radical theory, radical capture, radical recombination, radical diffusion, radiolysis, acceptor, oxidation, reduction, Allen model, track, gamma-ray, acceptor concentration, aqueous solution, I, fast electron, spur, electron volt, kinetics, homogeneous kinetics

ABSTRACT: Calculations are made which show that radiolysis of aqueous solutions by hard gamma-rays and fast electrons can be quantitatively described with a simplified model according to which radicals and molecular products are generated in constant yield throughout the entire volume of the solution. The existence of experimentally determined I-correlation in the radiolysis of some aqueous

Card 1/2

L 18876-63

ACCESSION NR: AP3006620

solutions is proof that the active particles in such solutions are radicals rather than excited water molecules. Bibliographic reference to A. O. Allen (The Radiation Chemistry of Water and Aqueous Solutions, 1961). Orig. art. has: 4 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 23Aug62

DATE ACQ: 30Sep63

ENCL: 00

SUB CODE: CH, NS

NO REF SOV: 011

OTHER: 004

2/2

Card

S/033/63/040/002/020/021
E001/E120

AUTHOR: Byakov, V.M.

TITLE: The possible role of the intergalactic medium in the maintenance of gas motions in the halo

PERIODICAL: Astronomicheskii zhurnal, v.40, no.2, 1963, 384-385

TEXT: S.B. Pikel'ner and I.S. Shklovskiy (Astron. zh., v.34, 1957, 145) developed a theory of the "dynamic" halo according to which interstellar gas has a high velocity dispersion and is able to rise over the galactic plane forming thereby a spherical gas system of 10 - 15 kpc radius. The main difficulty of this theory consists in that no source of energy is known which could provide the energy dissipated, i.e. of the order of $\sim 10^{-27}$ erg/cm³.sec. The author proposes to consider the role of the intergalactic medium in the maintenance of turbulent motions of gas in the halo. He estimates the velocity of internal motion excited in the halo and arrives at the figure of $u' = 50$ km/sec, which is in agreement with Pikel'ner's value. The motion of gas in the halo must be of turbulent nature. The rate of energy dissipation will be u'^3/L , where L is a certain characteristic length, and the
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The possible role of the intergalactic. S/033/63/040/002/020/021
E001/E120

characteristic time $T \sim 3 \times 10^7$ years at $L \approx 10^{22}$ cm. Using the equation of motion:

$$M \frac{du}{dt} = -k \rho \frac{u^2}{2} S$$

where M is the mass of the galaxy, and S is area of cross-section, ρ is density, the author determines the time of reducing velocity by a factor of 2 from the equation:

$$t_2 \approx \frac{2 \rho'}{k \rho} \cdot \frac{R}{u(t)}$$

The result is $t_2 \approx 2 \times 10^9$ years, i.e. of the order of the age of the galaxy.

SUBMITTED: October 10, 1961

Card 2/2

AP3004317

S/0033/63/040/004/0625/0632

AUTHOR: Byakov, V. M.

TITLE: The behavior of the energy spectrum of cosmic rays of great energies

SOURCE: Astronomicheskij zhurnal, v. 40, no. 4, 1963, 625-632

TOPIC TAGS: cosmic ray energy, anisotropy, cosmic ray particle, inhomogeneity, galactic magnetic field, distribution function, relativistic fragment, energy spectrum.

ABSTRACT: There are indications that the exponent γ at energies of cosmic rays from 10^{15} to 10^{16} ev is not constant. It increases from 2.5 at $10^{10} < E < 10^{15}$ ev to 3.2 at $5 \cdot 10^{15} < E < 10^{17}$ ev. The augmentation of the exponent is considered as a consequence of anisotropy during the dispersion of cosmic ray particles with high energies on the inhomogeneities of the galactic magnetic field. The study of the motion of cosmic ray particles is based on the assumption that it is of diffuse character in the galactic magnetic field. An equation of the distribution function is developed in which the relativistic fragments

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AP3004317

generated by collisions of nuclei in interstellar space have the same energies on one nucleon as those of the primary nuclei. The equation is solved for the boundary conditions. The distribution of particles of cosmic rays in individual areas of space depends not only upon the form of the spectrum but also upon the character of the diffusion coefficient of the particle energy. When the curvature radius of the particle trajectory is less than the dimensions of the area of the uniform magnetic field, the dispersion is isotropic. With a large curvature radius the particles start to scatter. The magnetic inhomogeneities and fluctuations of the magnetic field are the more important phenomena for particle scattering. The scattering, in such conditions, is determined by an interval of "wave numbers," which are ratios of 2π to the dimensions of the inhomogeneities. The exponent of the energy spectrum may vary by no more than 1 for all energies of cosmic rays as yet observed. Orig. art. has: 32 formulas.

ASSOCIATION: none

SUBMITTED: 14Dec61

DATE ACQ: 20Aug63

ENCL: 00

SUB CODE: AS

NO REF SOV: 009

OTHER: 004

Card 2/2

BYAKOV, V.M.

Yield of molecular products of water radiolysis as dependent
on the concentration of acceptor radicals. Dokl. AN SSSR 153
no.6:1356-1359 D '63. (MIRA 17:1)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN
SSSR. Predstavleno akademikom A.I. Alikhanovym.

BYAKOV, V.M.; ERSHLER, B.V.

Mechanism underlying the formation of molecular products in
water radiolysis. Dokl. AN SSSR 154 no. 3:669-672 Ja '64.
(MIRA 17:5)

1. Predstavleno akademikom A.I.Alikhanovym.

BYAKOV, V. M.; GRAFUTIN, V. N.; SUVOROV, L. Ya.

"Dynamics of boiling steam-and-water mixture."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva,
31 Aug-9 Sep 64.

BYAKOV, V. M.; GRAFUTIN, V. I.; CHERNYSHEV, V. V.; ERSHLER, B. V.

"Heat transfer in a boiling liquid."

report submitted for 2nd All-Union Conf on Heat & Transfer, Minsk, 4-12 May
1964.

Inst of Theoretical & Experimental Physics.

L 2048-65
JD/JW

EXT(a)/EPF(c)/EWP(b)

Pr-4

DIAAP/AEDC(a)/SSD/APWL/SSD(a)/ECG(+)

ACCESSION NR: AP4046428

S/0056/64/047/003/1074/1083

AUTHORS: Firsov, V. G.; Byakov, V. M.

TITLE: Chemical reactions involving muonium. A method for determining the rate constants and other reaction parameters

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 3, 1964, 1074-1083

TOPIC TAGS: muon, positive mu meson, muonium, chemical reaction kinetics, reaction rate, hydrogen, meson reaction

ABSTRACT: It is shown that the ²¹various hitherto unexplained effects accompanying the depolarization of positive muons in matter can be explained by assuming that the hydrogenlike muonium atom produced upon depolarization enters into chemical reaction with the matter, and that the orientation of the positive-muon spin is conserved as a rule. It is shown on the basis of this assumption that by measuring

Card 1/3

L 12048-65
ACCESSION NR: AP4046428

the asymmetry coefficient of positive-muon decay it is possible to determine the absolute rate constants of reactions between hydrogen atoms and various acceptors. Inasmuch as the method is not limited with respect to the aggregate state of the material or the temperature, it can be used to determine the reaction-rate constants in gases, liquids, and probably even solids. In the latter case the effect of the internal magnetic fields must be taken into account. In addition, the activation energies of processes in different states can be determined by a single procedure; this possibility is a unique feature of the method. Several other chemical-reaction parameters that can be investigated with the aid of this method are also mentioned, including steric factors and the possibility of the tunnel effect. "The authors thank A. O. Vaysenberg, S. S. Gershteyn, V. I. Gol'danskiy, and V. G. Nosov for valuable remarks and a useful discussion." Orig. art. has: 1 figure and 7 formulas.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki

Card 2/3

L 12048-65

ACCESSION NR: AP4046428

(Institute of Theoretical and Experimental Physics)

SUBMITTED: 06Apr64

SUB CODE: GC, NF

NR REF SOV: 008

Card 3/3

BUGAYENKO, L.T.; BYAKOV, V.M.

New method of estimating the relations of the rate constants
in reactions between radicals and their acceptors. Dokl. AN
SSSR 158 no.1:186-188 S-0 '64 (MIRA 17:8)

1. Moskovskiy gosudarstvennyy universitet, Institut teoreti-
cheskoy i eksperimental'noy fiziki.

L 40882-66 EWT(1) WW/GD

ACC NR: AT6021837 (A) SOURCE CODE: UR/0000/65/000/000/0084/0099

AUTHOR: Byakov, V. M.; Stepanova, O. P.; Ershler, B. V. 51

ORG: Institute of Theoretical and Experimental Physics, Moscow B+1
(Institut teoreticheskoy i eksperimental'noy fiziki)

TITLE: Heat transfer and mixing in a boiling liquid

SOURCE: Teplo- i massoperenos. t. III: Teplo- i massoperenos pri fezovykh prevrashcheniyakh (Heat and mass transfer. v. 3: Heat and mass transfer in phase transformations) Minsk, Nauka i tekhnika, 1965, 84-99

TOPIC TAGS: heat transfer, boiling, turbulent mixing

ABSTRACT: The article first considers the growth of individual bubbles of vapor in a superheated liquid. If the radius, R, of the bubble is sufficiently great so that the capillary pressure due to the curvature of the surface can be neglected, the determining factor in the growth rate of a bubble of vapor is the rate of heat supply from the surrounding medium. The situation is described by the following equation:

$$\rho^* L \frac{d}{dt} \left(\frac{4\pi}{3} R^3 \right) = 4\pi R^2 \kappa (T^* - T) \left(\frac{3}{\pi a t} \right)^{1/2} \quad (1)$$

Card 1/2

BYAKOV, V.P., tekhnolog; KRASNOSEL'SKIKH, N.T., inzhener, redaktor.

[Results of increased efficiency in production] Iz opyta ratsionalizatsii
proizvodstva. Pod red. N.T.Krasnosol'skikh. Sverdlovsk, Gos. nauchno-
tekh. izd-vo mashinostroit. i sudostroit. lit-ry [Uralo-Sibirskoe otd-nie]
1953. 76 p. (MLRA 7:6)
(Machine-tool industry)

SHOSHIN, A.A.; IGNAT'YEV, Ye.I.; MARKOVIN, A.P.; BYAKOV, V.P.

Nature, objectives and methods of medical geography. Geog. sbor.
no.14:5-13 '61. (MIRA 15:1)

(MEDICAL GEOGRAPHY)

SHOSHIN, A.A., otv. red.; BYAKOV, V.P., red.; IGNAT'YEV, Ye.I., red.;
KELLER, A.A., red.; YAKOVLEV, A.V., red.

[Materials of the Commission on Medical Geography] Materialy
Komissii meditsinskoi geografii. Leningrad. Pt.1. 1961. 76 p.
(MIRA 15:1)

1. Geograficheskoye obshchestvo SSSR.
(MEDICAL GEOGRAPHY)

SHOSHIN, A.A.; IGNAT'YEV, Ye.I.; MARKOVIN, A.P.; BYAKOV, V.P.

Present-day status of medical geography and the prospects for its
development. Mat.Kom.med.geog.Geog.ob-va SSSR pt.1:14-22 '61.
(MIRA 15:10)

(MEDICAL GEOGRAPHY)

BYAKOV, V.P.

Materials on the medico-geographical features of mountain landforms.
Geog. sbor. no.14:36-56 '61. (MirA 15:1)
(MOUNTAINS) (MEDICAL GEOGRAPHY) (ALTITUDE, INFLUENCE OF)

BYAKOV, V.P.; MARKOVIN, A.P.; RACHKOV, I.M.; NOSHCHINSKIY, V.R.; IGNAT'YEV,
Ye.I.

Informational reports. Mat.Kom.med.geog.Geog.ob-va SSSR pt.1:58-
76 '61. (MIRA 15:10)

(MEDICAL GEOGRAPHY)

IGNAT'YEV, Ye.I., otv. red.; SHOSHIN, A.A., red.; BYAKOV, V.P.,
red.; VERSHINSKIY, B.V., red.; YAKOVLEV, A.V., red.;
KHLEBOVICH, I.A., red.

[Medical geography; results and prospects] Meditsinskaya
geografiya; itogi, perspektivy. Irkutsk, 1964. 208 p.
(MIRA 17:7)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Institut
geografii Sibiri i Dal'nego Vostoka.

URUPOV, A.K.; BYAKOV, Yu.A.

Relation between the values of seismic velocities in individual
layers and longitudinal electric resistivities. Razved. i prom.
geofiz. no.38:94-97 '60. (MIRA 14:3)
(Perm Province--Seismic prospecting)

URUPOV, A.K.; BYAKOV, Yu.A.; SHIKHOV, S.A.

Using the refraction method for mapping areas of increasing
thicknesses in the lower Carboniferous terrigenous formation.
Geol. nefti i gaza 5 no. 2:29-31 F '61. (MIRA 14:2)

1. Permskiy gosudarstvennyy universitet i Trest Perm'neftegofizika.
(Volga-Ural region--Geology--Maps)
(Seismic prospecting)

L 19298-63 EMT(1)/BDS AFFTC/ESD-3 TF
ACCESSION NR: AR3006559 S/0169/63/000/008/D017/D017

SOURCE: RZh. Geofizika, Abs. 8D105

X B

AUTHOR: Byakov, Yu. A.

TITLE: Investigation of a tapering zone according to effective velocities

CITED SOURCE: Uch. zap. Permsk. un-t, v. 24, no. 2, 1962, 93-97

TOPIC TAGS: effective wave velocity, tapering stratum, reflecting horizon, reflected wave, layer velocity, terrigenous deposit

TRANSLATION: An analysis is made of the effective (w), the mean (v), and layer (v_1) velocities belonging to a region in a carbonate section of which lies a terrigenous bench varying in thickness (80-100 up to 300-400 m). It is shown that the zone with the sharpest reduction in the thickness of the terrigenous deposits is well reflected on graphics $w(x)$ and $v(x)$ for reflecting horizons located below the bottom of the terrigenous complex, influences the nature of the relationship $\Delta w(x)$ and $\Delta v(x)$ of difference in the effective and mean velocities corresponding to the indicated horizons and the horizon coinciding

Card 1/2

L 19298-63
ACCESSION NR: AR3006559

to the top of the tapering layer. The calculation of the horizontal gradient of the layer velocity v_1 is necessary for studying the structural plane of the reflecting horizon located under the tapering strata. T. Bakharevskaya.

DATE ACQ: 06Sep63

SUB CODE: PH

ENCL: 00

Card 2/2

BYAKOV, Yu.A.; SHUKHOV, S.A.

Combining geophysical methods when investigating the marginal
section of the Kama-Kinal' Depression. Geol. nefti i gaza 7
no.12:35-36 D '63. (MIRA 17:8)

1. Permskiy universitet.

URUPOV, A.K.; BYAKOV, Yu.A.

Evaluation of the reflection coefficient based on the data of electric logging and neutron gamma-ray logging. Razved. geofiz no.2:36-38 '64.
(MIRA 18:5)

BYAKOV, Yu.A.

Karst cave in the principality of Monaco. Peshchery no.4:69-70
'64. (MIRA 18:5)

1. Permskiy gosudarstvennyy universitet.

URUPOV, A.K.; BYAKOV, Yu.A.

~~.....~~
Finding multiple refracted waves. Izv. vys. ucheb. zav.: neft' i gaz
7 no.5:13-16 '64. (MIRA 17:9)

1. Fermskiy gosudarstvennyy universitet im. A.M. Gor'kogo.

KALFYKOV, Dmitriy Mefed'yeovich; BYAKOVA, L., red.

[Tomorrow of Krasnoyarsk Territory] Zavtra Krasnoiarskogo
kraia. Krasnoiarsk, Krasnoiarskoe knizhnoe izd-vo, 1963.
67 p. (MIRA 17:11)

ACCESSION NR: AR4039970

S/0299/64/000/009/D005/D005

SOURCE: Ref. zh. Biol. Sv. t., Abs. 5P28

AUTHOR: Rozhkov, A. S.; Verzhutskiy, B. N.; Byalaya, I. V.;
Velkova, L. M.

TITLE: A study of relationships between phenological phenomena in
East Siberia. Report I. Kyrmenskaya valley (Bayanduyevskiy rayon
of Irkutsk oblast'), May-June 1960

CITED SOURCE: Biol. Vost.-Sib. fenol. komis., vyyp. 2-3, 1963, 12-16

TOPIC TAGS: East Siberia, phenology

TRANSLATION: A study of relationships between phenological dates in
a seasonal rhythm enables the finding of indicators of important
moments in plant and animal life which are difficult to recognize and
facilitates the adoption of timely preventive measures against
harmful insects.

SUB CODE: LS

ENCL: 00

Card 1/1

ZHDANOVICH, Ye.S.; BYALAYA, Ye.I.; PREOBRAZHENSKIY, N.A.

Synthetic studies on coenzyme A. Part 1: Synthesis of
 β -aminopropionic acid, β -alanine. Zhur. ob. khim. 31 no. 2:446-
447 F '61. (MIRA 14:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(Alanine)

ZHDANOVICH, Ye.S.; BYALAYA, Ye.I.; PREGOBRAZHENSKIY, N.A.

Synthesis of pantothenic acid. Trudy VNIVI 6:14-17 '59.
(MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
Sinteticheskaya laboratoriya.
(PANTOTHENIC ACID)

BYALER, I. Ya.

PA 174T23

USSR/Engineering - Stresses, Mining
Mathematics - Approximation

21 Sep. 50

"Determining the Stresses in the Rock Around Three
Parallel Braced Mining Galleries," I. Ya. Byaler

"Dok Ak Nauk SSSR" Vol LXXIV, No 3, pp 433-435

Solves subject problem by method of successive ap-
proximations developed by S. L. Sobolev and S. G.
Mikhlin. Stresses in rock of barrier depend upon
ratio a/R , where a is distance between diggings
and R is diam of pit. Submitted 20 Jul 50 by A.
N. Dinnik.

174T23

1. BYALER, I. YA.
2. USSR (600)
4. Strains and Stresses
7. Determination of stresses in rock surrounding two parallel reinforced mines, Inzh. sbor., No. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

BYALER, I.Ya., kandidat tekhnicheskikh nauk (Kiyev)

Determination of tension in plates weakened by two circular holes.
Issledovaniia po teorii soorushenii. Sbornik statei no.6:491-510

'54.

(MLRA 7:11)

(Structures, Theory of) (Strains and stresses) (Elastic plates
and shells)

USSR/Engineering - Mechanics

FD-1452

Card 1/1 : Pub. 41-6/17

Author : Byaler, I. Ya., Kiev
~~USSR/Engineering - Mechanics~~

Title : The problem of calculating the supporting structures of multispans stations of a subway

Periodical : Izv. AN SSSR. Otd. tekhn. nauk 7, 46-52, Jul 54

Abstract : Gives results of theoretical investigation of stressed state in rock surrounding three parallel tunnel excavations for the purpose of calculating supporting structures of multispans subway stations. Solves problem of applying theory of elasticity to the determination of stress in a plane weakened by three reinforced circular holes. Diagrams. Five references.

Institution :

Submitted : April 24, 1953

BYALER, I.Ya., dotsent, kandidat tekhnicheskikh nauk.

Calculation of mine timbering for a vertical mine shaft with
circular cross section. Ugol' 31 no.1:14-16 Ja '56.
(Mine timbering) (MLRA 9:4)

KOSHEVOY, O.K.; MEYTN, Ya.M.; BYALER, I.Ya. [deceased]; REZNICHEHKO,
V., inzh.; IVANOV, S., inzh.; TUROVSKIY, B., red.; IOAKIMIS, A.,
tekh.n.red.

[Plastics in building, architecture, and sculpture] Plasti-
cheskie massy v stroitel'stve, arkhitekture i skul'pture.
Kiev, Gos.izd-vo lit-ry po stroit. i arkhit.USSR, 1959. 195 p.
(Plastics) (MIRA 12:10)

BYALER, I.Ya., kand. tekhn. nauk dots (Kiyev)

Determining the effect of nonlinear elasticity of materials on
the stress concentration around openings. Issl. po teor. sooruzh.
no.8:535-545 '59. (MIRA 12:12)
(Elasticity) (Strains and stresses)

BYALER, I.Ya., dotsent, kand.tekhn.nauk (Kiyev)

Determining stresses in some structural elements weakened by
apertures. Issl. po teor. sooruzh. no. 9:153-158 '60.

(MIRA 14:1)

(Strains and stresses)

BYALER, I Ya

PHASE I BOOK EXPLOITATION

SOV/5417

Bezpalyy, Vladimir Illarionovich, Ivan Yakovlevich Byaler, Nikolay Georgiyevich Karsnitskiy, and Leonid Dmitriyevich Saprykin

Sbornyy zhelezobeton v podzemnom stroitel'stve (Precast Reinforced Concrete in Underground Construction) Kiyev, Gosstroyizdat USSR, 1961. 248 p. 3,500 copies printed.

Ed.: I. Reznichenko; Tech. Ed.: Ye. Zelenkova.

PURPOSE: This book is intended for builders and designers of underground structures. It may also be used by students taking courses in construction, transportation, or hydraulic engineering.

COVERAGE: Soviet and non-Soviet experience gained in designing and building underground structures is presented in a generalized form, and methods for determining stress states in rock and calculations of reinforcements for different types of excavations are discussed. Considerable attention is given to constructional problems of precast ferroconcrete tunnel linings and shaft casings. Included are

Card 1/7

Precast Reinforced Concrete (Cont.)

SOV/5417

problems dealing with the manufacture of structures, and the organization and mechanization of tunneling and excavating. Chs. V, VIII, and part of I were written by V. I. Bezpalyy; the Foreword and Chs. I, II, IX, and XI, by I. Ya. Byaler; Chs. III, IV, X, and part of II, by N. G. Karsnitskiy; and Chs. VI and VII, by L. D. Saprykin. No personalities are mentioned. There are 86 references, all Soviet.

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Precast Reinforced Concrete (Cont.)

SOV/5417

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Card 3/7

BEZPALYY, V.I.; ~~BYALER~~, I.Ya. (Kiyev)

Designing overhead crosspieces for wall apertures. Stroi. mekh.
i rasch. soor 3 no.l:37-38 '61. (MIRA 14:2)
(Walls) . (Strains and stresses)

BYALER, I.Ya., inzh. (Kiyev)

Approximation method for determining the state of stress in a plane
weakened by a reinforced square aperture. Issl. po teor. sooruzh.
no.10:287-291 '61. (MIRA 14:8)

(Elastic plates and shells)

BYALER, I.Ya., kand.tekhn.nauk (Kiyev)

Determining the stressed state in a heavy semiplane weakened by
a circular reinforced hole. Issl.po teor.sooruzh. nō.11:207-
225 '62.

(MIRA 15:8)

(Strains and stresses)

BYALER, I.Ya., kand. tekhn. nauk (Kiyev)

Determining stress in some structural elements made of material
with transversal structure. Issl. po teor. sooruzh. no.12:
213-225 '63. (MIRA 16:6)

(Anisotropy) (Strains and stresses)

KOROLEV, Petr Grigor'yevich; BYALER, Ivan Yakovlevich; SALION, Vladimir Yefimovich; KOSOVSKIY, V.A., red.

[Strength of materials; brief lecture course] Sopro-
tivlenie materialov; kratkii kurs lektsii. 2., perer. i
dop. izd. Kiev, Urozhai, 1964. 387 p. (MIRA 18:1)

BYALEVICH, Anton

Achievements of the October Revolution. Rab. i sial. 38 no.10:
10-11 0 '62. (MIRA 15:10)

1. Kolkhoz "40 god Kastychnika" Rechitskogo rayona.

(Rechitsa District—Rural conditions)

BYALIK, G. I. Cand. Yech. Sci.

"Methods of Sound Accompaniment for Television Transmitters," Radiotekh.,
No.6, 1948

BYALIK, G. I.

155710

USSR/Radio - Television Receivers Nov/Dec 49
Amplifiers

"Distortions in a Television Receiver During
the Passage of Image and Sound Signals," G. I.
Byalik, Cand Tech Sci, 14 1/2 pp

"Radiotekhnika" No 6

Analyzes distortions in amplification of AM image
carrier and FM sound carrier in single receiv-
ing channel. Establishes condition for nondis-
torted operation, at which noise factor for im-
age does not exceed a few percent and is negli-
gibly small for the sound. Concludes, on the

155710

USSR/Radio - Television Receivers Nov/Dec 49
(Contd)

basis of analysis and experimental verification,
that second IF amplifier for sound in television
receivers is redundant. Submitted 8 Apr 49.

1557103

BLANK, G. I.

Shirokopolosnye Usiliteli (Broad Band Amplifiers -Radio), 102 p., Moscow, 1951.

BYALIK, G.I.

[What's new in television] Novoe v televidenii. Moskva, Gos. energ. izd-
vo, 1952. 78 p.
(MLRA 6:5)
(Television)

1. BYALIK. G. I.
2. USSR (600)
4. Television
7. "Telephotograph" is the predecessor of television, Priroda, 42, No. 5, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

~~BYALIK~~ Gensil Iosifovich; BERG, A.I., redaktor; DZHIGIT, I.S., redaktor;
YELIN, O.G., redaktor; KULIKOVSKIY, A.A., redaktor; MOZHZHEVELOV, B.H.,
redaktor; SMIRNOV, A.D., redaktor; TARASOV, F.I., redaktor; TRAMM,
B.F., redaktor; CHECHIK, P.O., redaktor; SHAMSHUR, V.I., redaktor;
KRIVOSHEYEV, M.I., redaktor; SKVORTSOV, I.M., tekhnicheskiy redaktor

[The technique of television transmission] Tekhnika televizionnykh
peredach. Moskva, Gos. energ. izd-vo, 1954. 96 p. (Massovaia radio-
biblioteka, no.205) (MLRA 8:3)
(Television-Transmitters and transmission)

Summary - D 222543, 10 May 55

BYALIK, Gavril Iosifovich; BERG, A.I., redaktor; DZHIGIT, I.S., redaktor;
KULIKOVSKIY, A.A., redaktor; SMIRNOV, A.D., redaktor; TARASOV, F.I.,
redaktor; TRAMM, B.F., redaktor; CHECHIK, P.O., redaktor; SHAMSHUR,
V.I., redaktor; KRIVOSHEYEV, M.I., redaktor; SKVORTSOV, I.M., te-
khnicheskiy redaktor.

[Broadband amplifiers] Shirekopolosnye usiliteli. Izd. 2-ee, perer.
Moskva, Gos. energ. izd-vo, 1956. 110 p. (Massovaya radiobiblioteka
no.240) (Amplifiers, Electron-tube) (MLRA 9:5)

AUTHOR:

BYALIK, G. I.

TITLE:

The Characteristic of the Aperture Effect in Television.

PA - 2822

PERIODICAL:

(Kharakteristika aperturnogo effekta v televidenii, Russian)
Radiotekhnika, 1957, Vol 12, Nr 3, pp 31-44 (U.S.S.R.)

Received: 5 / 1957

Reviewed: 7 / 1957

ABSTRACT:

In television those distortions are understood as being an aperture effect which are connected with the finity of the dimensions of the elements of a television system to be developed. It manifests itself by a reduction of the reactivity (distinctness and sharpness of the picture) of the television system in the direction of the decomposition lines as well as in the vertical direction. The investigation of reactivity is in the end reduced to the investigation of the aperture effect. For this purpose the determination of uniform characteristics is necessary. It is shown that the "law of distribution of the individual light current" is the basic characteristic of the aperture effect, i.e. the reaction of the developing system to the individual light-impulse function. The law of distribution is connected with the physical parameters of the aperture: the configuration and the "transparency" (or with the intensity of the electron irradiation) of the developing element. All other characteristics - frequency-, impulse- and transition characteristics -

Card 1/2

The Characteristic of the Aperture Effect in Television. PA - 2822

are represented as functions of the law of distribution. The law of distribution and the transition coefficient of the harmonic signal are assigned to one another according to FOURIER, i.e. according to one of the analytically given function the other function may be determined. The conclusions may be applied not only for television- , but also for electrooptical systems. (6 Illustrations and 2 Citations from Slav Publications).

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED: 25.3.1953
AVAILABLE: Library of Congress

Card 2/2

BYALIK, Cyryil Iosifovich; KUROCHKIN, F., ved. red.; BESPIATOV, P., tekhn.
red.

[Problems in television] Problemy telebakhennia. Kyiv, Derzh. vyd-vo
tekhn. lit-ry URSR, 1958. 149 p. (MIRA 11:7)
(Television)

6,6000

80448
SOV/112-60-2-6.1091

Translation from: Referativnyy zhurnal Elektrotehnika, 1960, Nr 2, p 356
(USSR)

AUTHORS: Byalik, G.I., Babenko, V.S.

TITLE: A Code System of Color Television

PERIODICAL: Tr. Leningr. in-t aviats. priborostr., 1958, Nr 23, pp 29 - 42

ABSTRACT: Chromatic diagram is divided into a number of zones (say 30); besides the brightness signal the zone number characterizing a color is transmitted. For transmitting the number an amplitude modulated subcarrier is used which can be within or without the spectrum of the brightness signal. For coding and decoding matrix circuits are used, as well as special electronic devices for division and multiplication. The narrowing of the frequency band is reached here at the expense of the chromaticity information.

A.K.K.

Card 1/1

BYALIK, G.I.

9(3)

SOV/19-58-11-165/549

AUTHOR: Byalik, G.I.

TITLE: A Coded Transmission and Reception Method for Color Television (Sposob kodovoy peredachi i priyema tsvetnogo televideniya)

PERIODICAL: Byulleten' izobreteniy, 1958, Nr 11, p 42 (USSR)

ABSTRACT: Class 21a¹, 34³¹. Nr 115925 (576313/A-2493 of 30 Aug 1954). Submitted to the Ministry of Radio-Technical Industry of USSR. A method of coded transmission and reception of color TV, with a discrete transmission of the color of the object, with turning two color signals into one code signal in the transmission side coder, with code signal transmission in one channel with the brightness signal, with a decoder on the reception side giving again color signals. The intermediate optico-electric transformation in the coder is eliminated by means of an electron tube producing a knife-shaped

Card 1/2

SOV/19-58-11-165/549

A Coded Transmission and Reception Method for Color Television
ray, a diaphragm with three shaped slots, and a
collector.

Card 2/2

BOGATOV, Gerasim Borisovich; BYALIK, Gavril Iosifovich; KOLCHINSKIY, M.I.,
red.; BORUKOV, N.I., tekhn.red.

[Applied television units] Prikladnye televisionnye ustanovki.
Moskva, Gos. energ. izd-vo, 1959. 54 p. (Massovaya radiobiblioteka,
no:320) (MIRA 12:2)

(Industrial television)

9(4)

SOV/19-59-1-61/291

AUTHORS: Babenko, V.S., Byalik, G.I. and Shmakov, P.V.

TITLE: A Coding Electron-Beam Tube.

PERIODICAL: Byulleten' izobreteniy, 1959, Nr 1, p 21 (USSR)

ABSTRACT: Class 21a¹, 32₃₅. Nr 117145 (576468/A-11039 of 21 December 1954). Submitted to the Ministry of USSR Radio Engineering Industry. A coding electron-beam tube for conversion of continuous changes of image signals into code: including a magnetic or electrostatic deflecting system and an electron collector. To enable the coding of signals in color TV systems, the design includes a current-conducting electrode in the form of a close-grid network, placed between the deflecting plates and the collector. This grid is divided into separate zones with a different number of network meshes per area unit, which makes every zone correspond to a zone of constant color kind and color saturation on the color diagram.

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BYALIK, Gavriil Iosifovich; KRIVOSHEYEV, M.I., red.; VORONIN, K.P.,
tekhn.red.

[Wide-band vacuum-tube amplifiers] Lampovye shirokopolosnye
usiliteli. Izd.3. Moskva, Gos.energ.izd-vo, 1960. 109 p.
(Massovaia radiobiblioteka, no.363). (MIRA 13:6)
(Amplifiers, Electron-tube)

BYALIK, Gavriil Iosifovich; SAMOYLOV, V.P., red.; ASANOV, P.M., tekhn.red.

[Color television] Tsvetnoe televidenie. Moskva, Gos.energ.izd-vo,
1960. 126 p. (Massovaya radiobibliotek, no.358).

(MIRA 13:5)

(Color television)

PHASE I BOOK EXPLOITATION

SOV/4222

Byalik, Gavriil Iosifovich

Televideniye (Television) [Leningrad] Lenizdat, 1960. 323 p. 15,000 copies printed.

Scientific Ed.: G.K. Borkhvardt; Ed. of Publishing House: Yu.V. Pchelkin;
Tech. Ed.: T.A. Shermushenko.

PURPOSE: The book is intended for the general reader whose education is equivalent to that of an 8th to 10th grader in secondary school.

COVERAGE: The book describes the physical basis of television. Stress is laid on principles and phenomena on which are based television systems and their individual components. The use of television for special services, e.g., for scientific and industrial purposes, as well as color television is described. No personalities are mentioned. There are no references.

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9.4.190

AUTHORS: Aksenov, D.D., Byalik, G.I. and Timofeyev, B.S.

TITLE: Some characteristics of the physical processes in a storage tube with a one-sided target

PERIODICAL: Tekhnika kino i televideniya, no. 12, 1962, 41 - 47

TEXT: A graphecon tube fitted with a one-sided target electrode is considered. This is illustrated in Fig. 1. The elements of the target are first scanned by the reading beam having an energy of 1 keV and assume potentials near to those of the collector so that the elementary capacitances are charged to $Q = C_M u_c$, where C_M is the capacitance of an element of the target and u_c is the potential difference between the signal electrode (plate) and the collector. The writing beam of energy of 10 keV scans the target (but not necessarily with the same raster as the reading beam). This results in a partial or complete discharging of the elementary condensers, depending on the intensity of the writing beam. The potential distribution so obtained is then scanned by the reading beam of constant intensity and this

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results in the appearance of a video signal across the resistance of the signal plate; the recorded potential pattern is thus gradually erased. The most important characteristics of the graphecon were measured by the dynamic method (by using pulses). The current of the signal plate, as a function of the potential difference between the signal plate and the collector for two values of the beam current is illustrated in Fig. 3. It is seen that when the target is bombarded by an electron beam a current is produced in the signal-plate circuit; this current changes its polarity when the voltage between the collector and the signal plate is varied. The dependence of the signal-plate current on the acceleration potential of the electron beam and the potential of the correcting ring was also measured. An equivalent circuit for the signal plate is suggested; this consists of 5 resistances, 3 stray capacitances and C_M . Spurious signals and noise in the signal-plate circuit can be reduced by using the peculiarities of the current-voltage characteristic of the target; it is noted that the current is zero at a certain fixed potential of the signal plate. The noise reduction can also be achieved by
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using the correcting ring as the signal electrode.
There are 11 figures.

Fig. 1:

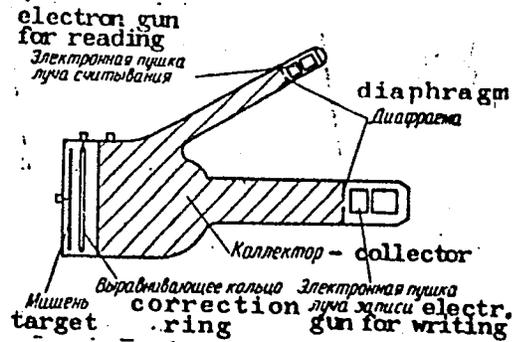
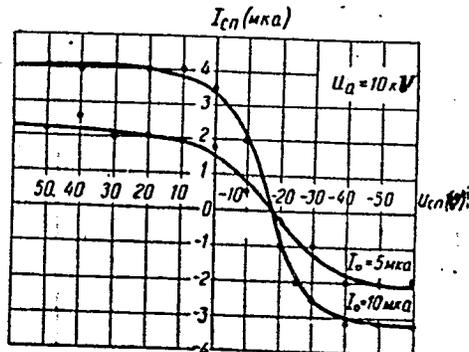


Fig. 3:



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BABENKO, Valeriy Sergeevich; BYALIK, G.I., retsenzent;
KOSSOV, G.Ya. nauchn. red.; PIKALEYEVA, Ye.D., red.

[Optics of television systems] Optika televizionnykh
ustroistv. Moskva, Izd-vo "Energia," 1964. 255 p.
(MIRA 18:1)